Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

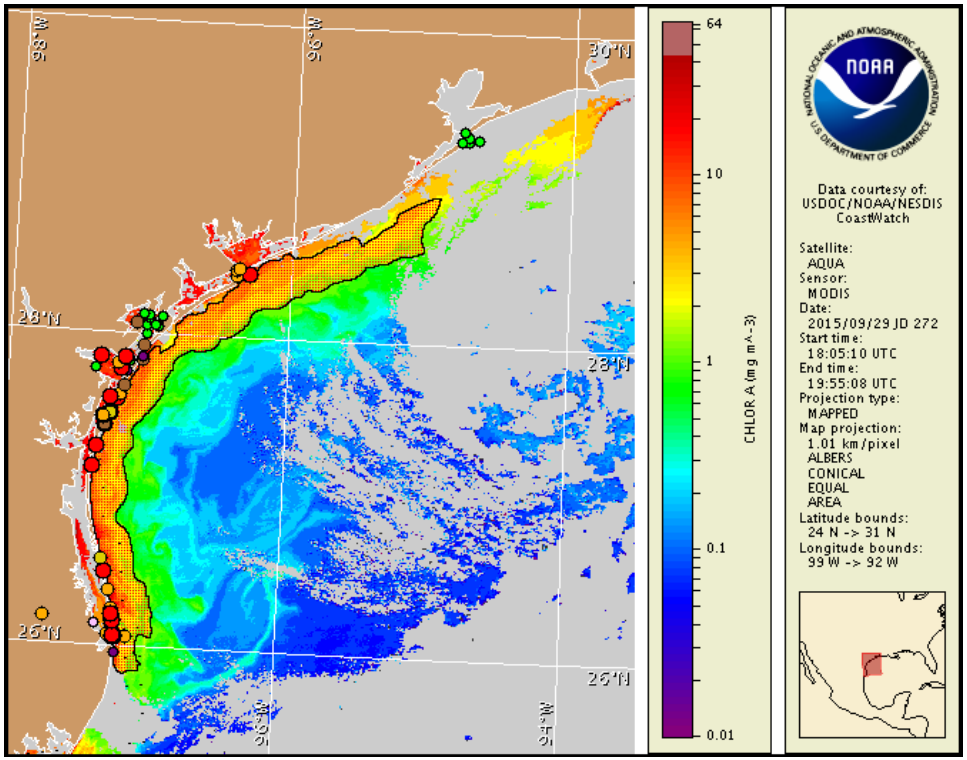
Thursday, 01 October 2015

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, September 28, 2015



Satellite chlorophyll image with possible *K. brevis* HAB areas shown by red polygon(s), when applicable. Points represent cell concentration sampling data from September 21 to 30: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

Detailed sample information can be obtained through the Texas Parks and Wildlife Department at:

http://www.tpwd.state.tx.us./landwater/water/environconcerns/hab/redtide/status.phtml

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To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive:

http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

Karenia brevis (commonly known as Texas red tide) ranges from not present to high concentrations along the Texas coast from Galveston Bay to the Rio Grande. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction. The highest level of potential respiratory irritation forecast for Thursday, October 1 through Monday, October 5 is listed below:

Region: Forecast (Duration)
Matagorda Peninsula region: Low (Th-M)
Bay region-Matagorda Bay: Moderate (Th-M)
Bay region-San Antonio Bay to Espiritu Santo Bay: Moderate (Th-M)
Bay region-Aransas Bay to Aransas Pass: High (Th-M)
Bay region-Corpus Christi Bay: High (Th-M)
Aransas Pass to PINS region: High (Th-M)
Bay region-Upper Laguna Madre: High (Th-M)
Padre Island National Seashore region: High (Th-M)
Mansfield Pass to Beach Access 6 region: High (Th-M)
Bay region-Lower Laguna Madre to Laguna Vista: High (Th-M)
Beach Access 6 to Rio Grande region: High (Th-M)
All Other Texas Regions: None expected (Th-M)

Check http://tidesandcurrents.noaa.gov/hab/beach_conditions.html for recent, local observations. Respiratory irritation, fish kills, and discolored water have been reported along South Padre Island. Fish kills have also been reported along Boca Chica Beach. Reports of discolored water have also been received from Corpus Christi Bay.

Analysis

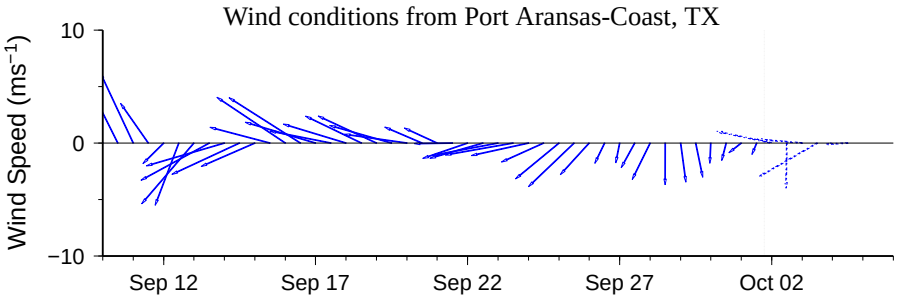
Karenia brevis concentrations range from 'not present' to 'high' from Galveston Bay to the Rio Grande. Samples collected early this week indicate that *K. brevis* concentrations remain 'high' alongshore South Padre Island, with 'high' concentrations identified at Beach Access Roads 5 and 6 and in the Brazos Santiago Pass area at the north jetty, Isla Blanca boat ramp, and the coastal studies lab (TPWD; 9/29-30). 'Low a' *K. brevis* concentrations were identified within the Lower Laguna Madre along South Padre Island at the convention center tidal flats (TPWD; 9/29). Alongshore PINS, 'low a' to 'low b' *K. brevis* concentrations were identified at mile marker 0 and the PINS north border, respectively, where 'medium' to 'high' concentrations were previously identified early last week (TPWD; 9/28). 'Medium' to 'high' *K. brevis* concentrations were detected within the Upper Laguna Madre at Worldwinds and Bird Island Basin, with the highest concentrations at Bird Island Basin (TPWD; 9/28-9/30). In the Galveston area, recent sampling from the Imaging FlowCytobot at Pelican Island continues to indicate 'not present' to 'background' *K. brevis* concentrations (TAMU; 9/28-30). Recent sampling from Texas A&M University's Imaging FlowCytobot, located on the Port Aransas ship channel, shows 'very low a' to 'low b' concentrations of *Karenia brevis* (TAMU; 9/28-10/1). No further samples have been received. For a summary of the most recent samples in other regions, see the last bulletin (Monday 9/28). Respiratory irritation has been reported alongshore PINS at Bird Island Basin and along South Padre Island (TPWD; 9/25-26). Fish kills have been reported along South Padre Island from Port Mansfield extending 10

miles southward, alongshore the city of South Padre, along Brazos Santiago Pass, and at Sea Ranch (TPWD 9/25-27). A fish kill was also reported from Boca Chica Beach (TPWD; 9/29). Discolored water has been reported from Sea Ranch on South Padre Island and within Corpus Christi Bay (TPWD; 9/25-28). For information on area shellfish restrictions, contact the Texas Department of State Health Services.

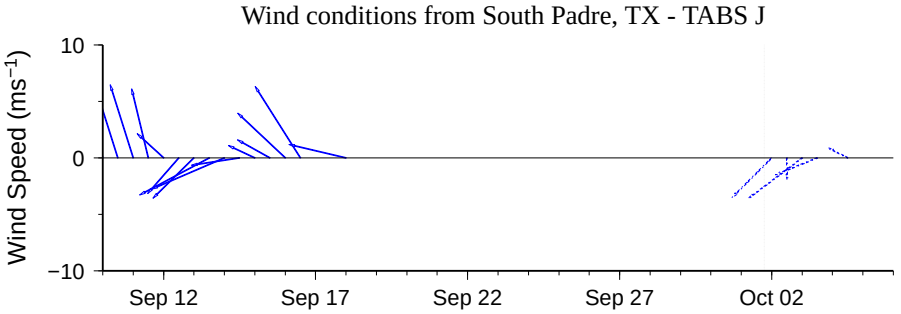
Recent MODIS Aqua imagery (9/29, shown left) is obscured by clouds along- and offshore the Texas coast from Sabine Pass to Matagorda Island, limiting analysis in this region. Patches of elevated chlorophyll (4 to 10 μg/L) are present along- and offshore the Texas coast from Matagorda Island to Padre Island National Seashore. Patches of elevated to very high chlorophyll (4 to > 20 μg/L) are present along- and offshore South Padre Island to the Rio Grande.

Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of 70 km south from Pass Cavallo, 70 km south from the Port Aransas region, 60 km south from PINS Mile Marker #15, and 90 km south from Brazos Santiago Pass from September 29 to October 4.

Derner, Lalime



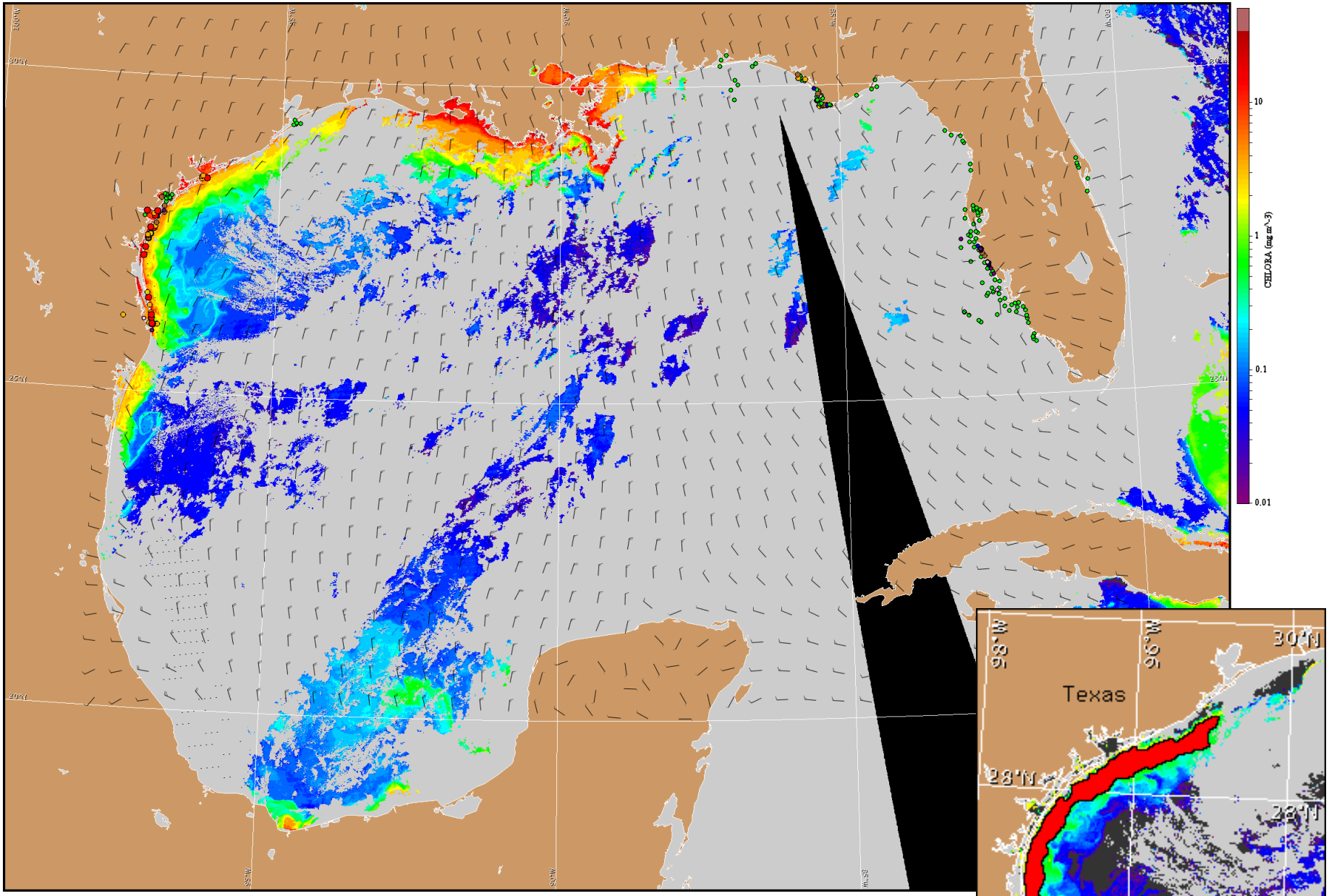
Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



Wind Analysis

Port Aransas to Baffin Bay: Northeast to east winds (5-15kn, 3-8m/s) today through Monday.

Port Mansfield to the Rio Grande: Northeast winds (7-12kn, 4-6m/s) today through tonight. North winds (7-9kn, 4-5m/s) Friday becoming northeast (7-13kn, 4-7m/s) late Friday morning through Saturday. East winds (7-10kn, 4-5m/s) Saturday night through Sunday. Southeast winds (7-11kn, 4-6m/s) Monday.



Satellite chlorophyll image and forecast winds for October 2, 2015 12Z with points representing cell concentration sampling data from September 21 to 30: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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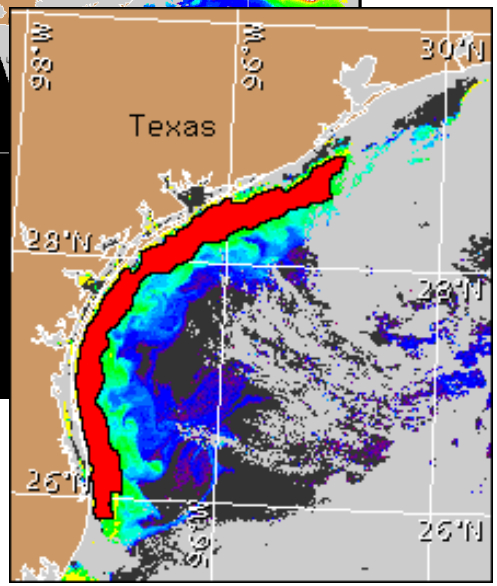

Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).